

P. T. A.

Chemistry & Chemical Technology

703

536.913:541.12.012.3:541.123.2/6

Axietoslawski, W. Tangent and Almost Tangent Isobars Limiting the Formation of Two-, Three- and Four-Component Azeotropes.

„O stycznych i prawie stycznych izobarach ograniczających zakres tworzenia się azeotropów dwu-, trójo- i czteroskładnikowych”. Przemysł Chemiczny, No. 7-8, 1950, pp. 421-422.

A definition of azeotropic range  $Z_1(B)$  of agent A forming two component azeotropic systems with a series  $B_1, B_2, \dots, B_n$  of homologs and their isomers has been given. The lowest and the highest boiling representatives of this series from tangent or almost tangent isobars to the horizontals drawn through boiling point of A and the lowest boiling representative of the series. The probability of the formation of three and four component systems (A,C,B<sub>1</sub>), (A,C,D,P<sub>1</sub>) depends exclusively upon agent A characterised by the lowest azeotropic range  $t_1(B)$  compared with two others  $t_2(B)$  and  $t_n(B)$ . No exception to this rule has been found as yet. The difficulty of separating mixtures of three and four component systems has been stressed out.

P.T.A.

Chemistry & Chemical Technology

700

511.123.012.3 511.123.3.6

Swietoslawski W. Almost Tangent Zeotropes and their Influence on the Formation of Three- and Four-Component Azeotropes.

"O zeotropach prawie styczniowych i ich wpływie na tworzenie się azeotropów troj- i czteroskładnikowych". *Przemysł Chemiczny*. Nr 7-8, 1960, pp. 422-423.

A close analogy has been proved to exist between the formation of two-three- or four-component zeotropic mixtures with almost tangent isobars to horizontals drawn through the boiling point of the azeotropic agents. Typical examples of such mixtures are given. It is stated that continuous transition exists from almost tangent azeotropes to almost tangent zeotropes. Difficulties connected with separating polyzeotropes and polyazeotropes by way of fractional distillation are pointed out.

P. I. A.

*Chemistry & Chemical Technology*

725

547.831-211.04

Świętosławski W., Ponkala B., Kulczycka H. Separation of Isomeric Picolines and 2,6 Lutidine.

„Rozdzielanie izomerycznych pikolin i 2,6 lutydyny”. *Przemysł Chemiczny*, No. 10, 1950 pp. 591-593.

A method for separating 2,6 lutidine, 4-picoline and 3-picoline has been devised. The method is based on the successive precipitation of hydrochlorides of 2,6 lutidine and 4-picoline. 2-picoline is removed by ordinary fractional distillation. The precipitation of 2,6 lutidine hydrochloride is carried out by mixing free tar bases with the hydrochloride salts of all the components. After 2,6 lutidine hydrochloride is removed, the mixture of the remaining tar free bases is precipitated by their hydrochloric salts. After the removal of 4-picoline hydrochloride the mother liquor contains 80% 3-picoline and 20% 4-picoline. The separation of the bases of this mixture is carried out in a manner described in literature.



SWIETOSLAWSKI, Wojciech

Chemical Abst.  
Vol. 48 No. 3  
Feb. 10, 1954  
Petroleum, Lubricants, and Asphalt

8-30-54  
JJP

The azeotropic ranges of binary and tertiary mixtures. Wojciech Swietoslowski (Univ. Warsaw, Poland). *Repts. Chem. 25, 381-7 (1951); J. C.A. 40, 411-42, 408-10.*  
The term azeotropic range has been extended to include cases in which the azeotropic agent is a binary or ternary azeotrope rather than a pure component. When components benzene (B), EtOH (E), and water (W), which form azeotropes (B,E), (B,W), (E,W), and (B,E,W), form binary azeotropes with a series of homologs ( $H_i$ ), the component with the most narrow azeotropic range is called the "primary agent," the other components the "secondary agents." The tangent or nearly tangent isobars of various azeotropes are plotted on temp. (boiling) vs. compn. coordinates. The compn. is given in terms of the "primary agent" (B) and the series of isomers ( $H_i$ ). The isobars are:  $I_B - I_{H_1}$ ,  $I_B - I_{H_2}$ ,  $I_{B,E} - I_{H_1,E}$ ,  $I_{B,E} - I_{H_2,E}$ ,  $I_{B,W} - I_{H_1,W}$ ,  $I_{B,W} - I_{H_2,W}$ ,  $I_{B,E,W} - I_{H_1,E,W}$ ,  $I_{B,E,W} - I_{H_2,E,W}$ , where  $H_1$  and  $H_2$  are members of the series  $H_i$ , with the highest and the lowest b.ps. The concn. of E in ternary and of E and W in quaternary azeotropes depends mostly on the b.ps. of the azeotropes, while the concns. of B and  $H_i$  vary continuously along the compn. axis. Equations relating the b.ps. of the azeotropes with the b.ps. of the fundamental "component" (azeotrope) should resemble the empirical equation of S. J. K. A. 42, 4012c), as also should the concn. changes of the primary and secondary agents. A general scheme is presented, illustrating the conditions under which azeotropes of the type (B, $H_i$ ), (B,E, $H_i$ ), and (B,E,W, $H_i$ ) can be formed. Existence of 5-component azeotropes is becoming increasingly more probable. Ludwig F. J. Jankowski

SWIETOSLAWSKI, Wojciech

Chemical Abst.

Vol. 48 No. 3

Feb. 10, 1954

Petroleum, Lubricants, and Asphalt

(3) *see also*  
The method of determination of azeotropic ranges. Wojciech Swietoslowski and Andrzej Orzech (Warsaw Inst. Technol., Poland). *Roczniki Chem.* 25, 389-402 (1951); *cf. C.A.* 46, 410. Gasoline is distd. through a fractionating column with a known no. of theoretical plates, and reflux ratio being constant and relatively high (10:1). The b.ps. are plotted vs. vol. %. The collected fractions are returned to the flask, and a given amt. of the azeotropic agent is added. The azeotropic agent may be a pure component or a mixt. of components capable of yielding binary or ternary azeotropes. This mixt. is then distd. under conditions identical with the original distn. The b.ps. are plotted vs. vol. % of the gasoline, the graph being superimposed over the graph obtained by distn. of the pure gasoline. Four examples of typical curves are given and discussed. The method has been applied to the case of benzene, EtOH, water, and a representative of hydrocarbons in the boiling range 60-99°, which form a series of quaternary azeotropes. The influence of aromatics and naphthenes present in the gasoline is judged to be of little importance.

Ludwig Luft-Zurakowski

*5-36*  
*gjp*

CA

*Fermentation Industries*  
16

Preparation of a benzene-gasoline mixture for dehydrating ethyl alcohol. W. Świątowski, K. Zielerak, and T. Gruberski (Inst. Ind. Chem., Warsaw, Poland). *Przemysł Chem.* 30, 683-6(1951). --The dehydrating mixt. is prepd. by passing a mixt. of  $C_6H_6$ , EtOH, water, and a fraction of gasoline b. 80-120° through a continuous distg. column. When the proportions are correctly chosen the resulting fraction consists of an upper phase contg. the azeotropic mixt. used in dehydrating EtOH and a lower phase contg. hydrocarbons that do not form quaternary azeotropes with  $C_6H_6$ , EtOH, and water.  
Frank Gonet

6

Pre-critical region of liquids. I. Optical methods of investigation.  
 W. Swietoslawski and T. Guthner. II. W. Swietoslawski.  
 Gruberski and W. Swietoslawski. III. Microphotometric method.  
 W. Swietoslawski and H. Markowicz. IV. Isochores and iso-  
 therms of post-critical region of  $\gamma$ -haptene.  
 S. W. Swietoslawski. *Roczn. Chem.* 1951 28, 201-202, 206-207.  
 213-214, 220. I. An optical method of investigation of liquid  
 vapor phase boundaries in the critical region. It was found that contraction  
 of the meniscus with rising temperature in the critical region is  
 at the walls of a tube after it has been heated to the critical  
 temperature. The contraction of the meniscus is observed in the  
 critical region of the liquid. The critical temperature of the liquid  
 is determined by the contraction of the meniscus. The critical  
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 the liquid is determined by the contraction of the meniscus.  
 III. A microphotometric procedure for measuring the width  
 of the shadow of a liquid meniscus in a tube above and  
 below the phase boundary of a contained liquid in the pre-critical  
 region is described.  
 IV. Apparatus for studying pressure, vol. and temp. of liquids  
 in the pre-critical region is described. Applying the procedures  
 outlined above. The breadth of the shadow obtained in the post-  
 critical region with vol. constant and pressure and temp. which  
 is a linear function of  $T$ .  
 K. F. F. F.



SWIETOSLAWSKI, W.

Separation of the isomeric nicotinic acids. I. Wojciech Swietoslowski, Andrzej Bytnicki, and Zygmunt Lisicki (Chim. W. 1932). Roczniki Chem. 26, 413-52 (1932) (English summary).--It was found that the isomeric nicotinic acids form an ideal eutectic mixt. contg. about 75% of nicotinic acid. The m.p. of the eutectic is at about 205°. A graph for the eutectic mixt. of nicotinic and isonicotinic acids is given. The soly. of a mixt. of both acids in water and EtOH at various temps. was detd.; soly. curves are given. Two methods for sepg. the 2 acids are described. The first method is based on the difference of their soly. in water, the other on successive crystn. of the mixt. from water and EtOH. Sublimation and thermal decompn. of the 2 acids also was examd., and the findings are reported. Edward A. Ackermann

SWIETOSLAWSKI, W.

Separation of eutectic binary mixtures. II. Wojciech Swietoslowski, Andrzej Bylicki, and Zygmunt [unclear] (J. Pol. Sci., Polym. Chem. Ed., 16, 153-9 (1978) (English summary)).—The sepr. of eutectic mixts. was studied, based on the unstable equi l. of satd. and nonsatd. solns. in contact with the corresponding solid phases. Two methods of seprg. the constituents of binary mixts. have been developed; both methods utilize the difference in crystn. and soly. rates of the constituents. By the 2 methods, a complete seprn. of the eutectic mixt. of isomeric nicotinic acids was accomplished. Edward A. Ackermann

SWIETOSLAWSKI, W.

Systems of binary negative azeotropes. IX. W. Swietoslawski  
(Rozpr. Chem., 1952, 26, 305-307).—Variation of ~~boiling~~ b.p. of  
azeotropes, formed by a constant component with a series of homo-  
logues and their isomers, with the change of their b.p. is represented  
graphically. Azeotropic range,  $Z_A(H)$ , of a series of azeotropes  
which component  $A$  forms with representatives of an homologous  
series  $H$  and their isomers is defined as the difference of b.p.  
 $t_{\text{sat}} - t_{\text{inf}}$  between the highest ( $H_H$ ) and the lowest ( $H_L$ ) boiling  
members of series  $H$ , which still form azeotropes with  $A$ .  
S. K. LACHOWICZ.

MA

SWIETOSLAWSKI, WOJCIECH

Chemical Abst.  
Vol. 48  
Apr. 10, 1954  
General and Physical Chemistry

(3)

The method of determination of the composition of binary and ternary azeotropes. Wojciech Swietoslowski and Andrzej Orszagh ~~Polish~~ Warsaw, Poland. *Roczniki Chem.* 26, 808-12 (1952) (English summary).—The distn. method can be applied only for the exact detn. of the compn. of the azeotrope if the sections of the distn. curve close to the azeotropic point are fairly sym. and the azeotropic point forms a well-defined min. At highly asym. courses, flat min. or, if the azeotropic point is very close to the 100% value of one component, the distn. method gives erroneous values, as was found empirically by Wrewski (*C.A.* 7, 1122). In these cases the ebulliometric method is the only one that furnishes an exact detn. of the azeotropic concns. of the components.  
Werner Jacobson

11-5-54

Swietoslowski, Wojciech

The change in composition of ternary azeotropes with pressure. Wojciech Swietoslowski (Univ. Warsaw, Poland). *Roczniki Chem.* 20, 4953 (1947) (English summary). — In 1912 Wreński formulated a rule for the effect of pressure on the compn. of a binary azeotrope (C.A. 7, 1122). If this rule is revised for pos. binary azeotropes to read that an increase in pressure raises the concn. of that component of the azeotrope which has the smallest coeff.  $di/dp$ , then it becomes possible to apply the rule to ternary mixts. The Gibbs triangle shows that there are 3 cases: (1) the differences in b.p.  $t_A - t_B$  and  $t_A - t_C$  remain const. with the change of pressure, therefore the compn. of the ternary azeotrope remains unchanged. (2) One difference  $t_A - t_B$  remains const., but the other  $t_A - t_C$  either increases or decreases with change in pressure. (3) Both b.p. differences change with pressure change. These considerations were applied to the observations made on  $C_2H_5-C_2H_5OH-H_2O$  (C.A. 28, 4953\*).

Werner Jacobson

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SWIETOSLAWSKI, WOJCIECH

Chemical Abst.  
Vol. 48  
Apr. 10, 1954  
General and Physical Chemistry

(2)

The effect of pressure on the change of the azeotropic ranges of binary azeotropes. Wojciech Swietoslawski (Univ. Warsaw, Poland). *Kocinski Chem.* 26, 625-4 (1952) (English summary).—The modified Wreński rule (cf. preceding abstr.) was used to discuss four possible cases of changes of azeotropic ranges of binary systems. In the following formulas the symbols have the following meaning: A is one compd.; H, H<sub>1</sub>, H<sub>2</sub>, . . . H<sub>n</sub> are the representatives of the series (H) of the homologs and their isomers; Z<sub>A</sub>(H) is the azeotropic range; it is equal to  $t_{H_n} - t_{H_1}$  for  $p = 1$  atm. Case (1): An increase of pressure causes a greater increase of the boiling temp. of compd. A than of the representatives of the (H) series. Then the equation  $Z_A(H) = t_{H_n} - t_{H_1}$  is valid, where  $m \geq n$ . Case (2): The increase of pressure causes a greater increase in the b.p. of the representatives of the (H) series than of the compd. A. In this case the equation  $Z_A(H) = t_{H_n} - t_{H_1}$  is valid, with  $m \geq n$ . Cases (3) and (4): Under the influence of a rise of pressure the temp. of the b.p. of portions of the representatives of the (H) series increases faster than the one of compd. A, and portions of the representatives increase slower, or even decrease in the b.p. This furnishes the two equations  $Z_A(H) = t_{H_n} - t_{H_1}$ ;  $Z_A(H) = t_{H_n} - t_{H_1}$ .  
Werner Jacobson

11-5-54

SWIETOSLAWSKI, WOJCIECH

Chemical Abst.  
Vol. 48  
Apr. 10, 1954  
General and Physical Chemistry

(3) The composition of ternary azeotropes formed by two components with a series of homologs. Wojciech Swietoslowski and Andrzej Orszagh, *Univ. Warsaw, Poland*. *Roczniki Chem.* 26, 625-31 (1952) (English summary). In ternary systems there are two binary azeotropic ranges (cf. preceding abstrs.):  $Z_A(H) = t_{H_A} - t_{H_B} < Z_B(H) = t_{H_B} - t_{H_A}$ , and one ternary azeotropic range  $Z_{A,B}(H) = t_{B,H} - t_{A,H}$ , where A and B are two azeotropic compds. and H is a representative of a series (H) of homologs and their isomers. The following possible cases of ternary azeotropes are discussed: (a) It is assumed that  $t_A$  and  $t_B$  differ little from each other, but the range  $Z_B(H)$  of the compd. B is very large in comparison with the range  $Z_A(H)$ ;  $Z_B(H)$  is equal to  $Z_A(H)$ . (b) The b.p.  $t_A$  is much higher than  $t_B$ . (c) The b.p. of A is much lower than that of B. (d) The b.ps. and the vols. of the azeotropes of A and B in relation to the (H) series are almost the same. W. J.

Classification of aqueous negative azeotropes  
~~Werner Jacobson, Eng. Werner Jacobson~~  
~~Chem. 20, 632 (1965) (English summary)~~  
 the usefulness of a classification of nonaq. neg. azeotropes,  
 for predicting the behavior of different types of azeotropes.  
 Three groups of azeotropes are proposed. The first one is a  
 binary mixt. in which the inequality of the van der Waals  
 forces plays the main role  $a_{1,1} < a_{1,2} > a_{2,2}$ . The azeo-  
 trope from  $\text{CHCl}_3$  and  $\text{CH}_2\text{COCH}_3$  belongs in this group.  
 The 2nd group is formed by nonaq. mixts. of weak acids and  
 weak bases, like phenol and 2,6-lutidine. The 3rd group  
 contains the distillable mixts. of strong acids and weak  
 bases, like  $\text{HCl}$  and 3-picoline. Also azeotropes of strong  
 bases and weak acids would belong here too, but no example  
 has yet been discovered.  
 Werner Jacobson

11.5.64



Fuel Abst.  
Vol. 24 No. 4  
October 1953  
Natural Solid  
Fuels: Sources and  
Properties

2991. PHYSICAL CHEMISTRY OF COALS AND COOKING PROCESSES.  
Swietoslawski, W. (Warsaw: Panstw. Wydawn. Tech., 1953,  
231pp., 27 zloty; title in Newercheinungen wiss. Lit.  
Volksdemokr., Apr. 1953, vol. 2,347).

SWIETOSLARVSKI, W.

Chemical Abst.  
Vol. 48 No. 4  
Feb. 25, 1954  
General and Physical Chemistry

2  
①  
Phys

Ternary positive-negative azeotropes. W. Swietoslowski.  
*Bull. acad. polon. sci., Classe 3, 1, 68-9 (1953).*—The location of the azeotropic point of a ternary azeotrope [(−)A, P(+), H], A, P, and H being a weak acid, weak base, and a hydrocarbon, resp., depends on the nature of A and P and the neg. azeotrope formed by them. Where A or P is strong acid or strong base and where both are weak, the azeotropic point in a triangular diagram is near the median from the hydrocarbon apex to the opposite side. If van der Waal's forces predominate between the mols. of A and P, the azeotropic point may be very far removed from the median.  
William A. Pennington

to cause soln. of the nuclei in a few min. Melts produced in foundries, in the ordinary way, are probably nuclei-free; inoculation of such melts with the metal is effective only if performed at a temp. just above the m.p. and just before freezing begins. In the case of pure metals, the inoculator must be placed in the mould. Neither by keeping metals molten for very long periods nor by strongly superheating Cu could a fine structure be obtained, as was done by Mitsche in the case of Al (*Carnegie Schol. Mem., Iron Steel Inst.*, 1934, 23, 65; 1936, 25, 41; *M.A.*, 2, 220; 4, 287). M.'s result was probably due to a secondary phenomenon. More stable nuclei, e.g. TiAl, or TiC, are probably present in Al alloyed with Ti or in hypereutectic Al-Si alloys. These phases have a high m.p., and dissolve only slowly. In the case of pure Al, coarsening of the structure ends within an hr. or in a few min. according to the temp. at which the melt is held; in Al-Ti alloys the process apparently continues even after 24 hr. As grain-refiners, only substances producing stable nuclei are satisfactory. Supercooling is possible only if the cooling melt is free from active nuclei, but some melts do not supercool even if free of nuclei. Sn is easily supercooled; Pb and Al did not supercool, regardless of the manner of treating the melt before the final cooling, in the present work. Freezing the melt, in the supercooled state, produces a finer structure than that obtained without supercooling; the grain-refining effect of supercooling reveals itself only in part of the casting. 16 ref.—J. S. G. T.

SWIETOSLAWSKI, W.

4445. COAL TAR AS TYPICAL POLYAZEOTROPIC MIXTURE. I. Swietoslowski, W. (Bull. Acad. polon. Sci., Classe III, 1953, vol. 1, 201-203; abstr. in Chem. Abstr., 1954, vol. 48, 6673, 6674). A polyazeotropic mixture contains two or more polyazeotropic systems. Coal tar is considered to be the most complicated example. The main component, which is naphthalene in the case of middle oil from coal tar, is present in sufficient quantity to form with the other constituents polyazeotropes which might be formed under a certain pressure established in the distillation still. The azeotropic ceiling line is a horizontal line drawn through a point representing the boiling temperature of the main component on the distillation curve. In the case of middle oil, the distilling curve crosses the ceiling line at an acute angle owing to the presence of higher boiling isomeric methylnaphthalenes. The mother liquor, obtained after the removal of naphthalene crystals, has been found the most suitable polycomponent agent for azeotropic removal of naphthalene from tar oils. The recycling of the polycomponent azeotropic agent favours the removal of constituents which are unable to form azeotropes with the main component. In that way, in the course of recycling, a self-improvement of the azeotropic agent takes place. Similar phenomena can be observed in the batch distillation of other mixtures in those cases in which a main component is present. C.A.

SWIETOSLAWSKI, W.

SWIETOSLAWSKI, W

POL.

The development of the coke by-products industry. W. Swietoslowski (Univ. Warsaw, Poland). *Przemysl Chemiczny*, 42(1963) 32 (English summary). -- Expts. with polyazetropic mixts show that the distn. of the middle oil should be considered as an example of a very complex polyazetropic mixt. It is proposed that no basic changes should be introduced to the continuous as well as discontinuous distn. of middle oil but the mother liquor, from which crystals of  $C_{12}H_{22}$  have been removed, be used as the most suitable poly-component agent for azeotropic distn. of  $C_{12}H_{22}$ .

SWIETOSLAWSKI, W.

4

The critical state of negative azeotropes. I. System of acetic acid-pyridine. W. Swietoslowski and A. Kreglewski (Univ. Warsaw). *Bull. Acad. Polon. Sci., Classe III, 2, 77-80 (1954)* (In English).—The system of HOAc-pyridine forms a neg. azeotrope in the crit. state, composed of  $75 \pm 1$  mole % of pyridine. The temps.,  $T_m$ , of the disappearance of the meniscus of pure pyridine, pure HOAc, and of the azeotrope are  $345.0$ ,  $321.3$ , and  $348.5^\circ$ , resp. L. W. W.

10/1/54

SWIETOSLAWSK, W.

Critical state of negative azeotropes. II. System  
acetone-chloroform. W. Swietoslawski and A. Jędrzejowski  
(Univ. Warsaw). *Bull. Acad. Polonaise Classe III*, 2,  
187-9 (1954). The crit. temps.  $T_c$  for the disappearance  
of the meniscus were detd. for mxts. of acetone and chloro-  
form. Small neg. deviations from linearity were found in  
plot of  $T_c$  vs. mole % of one of the components.

Aubrey P. Altshuler

*SCIENCE FOR THE FUTURE, W.*  
USSR/Physical Chemistry, Thermodynamics, Thermochemistry,  
Equilibriums, Phys-Chem. Anal. Phase-Transition.

B-8

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22282.

Author : V. Sietoslawski

Inst : Not given

Title : Polyazeotropic mixtures, containing two or more homologous  
compound series.

Orig Pub : Byull. Polskoy A.N. Otd III, 1954, 2, No 10, 493-497

Abstract : The study of complex organic mixtures of coal-tar type, named  
polyazeotropic by the author and started earlier (communication  
I, R. Zh. Khim, 1955, 44083) is continued. A classification of  
polyazeotropic mixtures, based on the quantity of homologous  
series entering in the composition of the given mixture, is  
offered. Properties of polyazeotropic mixtures, containing  
2 series of homologs and their isomers (paraffin and aromat-  
ic hydrocarbons) are studied. Some methodical procedures  
are shown facilitating the study of polyazeotropic mixtures  
containing several homologous series. Look also R. Zh. Khim.  
1954, 90745, 31213, 31470, 1957. 9224.

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-93-



SWIECISLAWSKI, W.

Method for determining the composition of quaternary hetero-azeotropes. W. Swieciński and A. Galska (*Bull. Acad. polon. Sci.*, 1954, 10, 2, 407-409). A combined distillation and ebulliometric method is described for the exact determination of the composition of quaternary positive hetero-azeotropes. The boiling and condensation temperature isobars of mixtures of the main fraction have to be determined to prove whether or not there is a lack or excess of each of the components in the main fraction. To obtain by fractional distillation a composition identical with, or very similar to, that of the quaternary azeotrope it is necessary to use an excess of those components which, when mixed with the azeotrope, produce more rapid boiling and condensation temperature increases than the others. Binary, ternary and quinary azeotropes may be studied by a similar method.

R. J. MAGGE.

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*[Handwritten signature]*

SWIETOSLAWSKI, W.; ROSTAFINSKA, D.; JANEK, W.

"Method of Investigation of Fractions of Pyridine Bases." P. 212. (PRZEMYSŁ  
CHEMICZNY, Vol. 10, No. 4, Apr. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4,  
No. 1, Jan. 1955 Uncl.

SWIETOSLAWSKI, Wojciech

"Basic Problems for the development of the Chemical Industry in Poland,"  
Nauka Polska, Vol. III, No. 1, (9), 1955, pp 29-36.

SWIETOSLAWSKI, W.

POLO N

Cryometric investigation of fractions obtained by frac-  
tional distillation of 2-picoline. W. Swietoslawski and R.  
Ciechomska (Univ. Warsaw). Bull. Acad. Polon. Sci. Chim.

III, 3, 33-6(1955)(in English).--The fractions obtained on distg. a 2-picoline (I) cut were converted to their hydrochlorides, excess HCl and water removed by heating, and the freezing temps. (the temp. at which crystals in the melted hydrochloride salts disappear) detd. According to the cryoscopic curve,  $C_6H_7N \cdot HCl$  (II) is the main component of the first fractions, I. HCl ppts. first in the middle and main fractions, and 2,6-lutidine salt (III) is the main component in the end fractions. The three sections in the cryoscopic curve are divided from each other by f.p. min. corresponding to the eutectics of II-I, HCl and I, and HCl-III.

Eierman Skolajk

SWIETOSLAWSKI, W,

✓ Distillation anomalies observed in mixtures of components forming ternary positive-negative azeotropes and eutropes. W. Swietoslowski and W. Trzaskowski. *Bull. Acad. Sci. USSR Div. Chem. USSR* 1977, 25, 1000-1004. The authors have studied the distillation of mixtures of components forming ternary positive-negative azeotropes and eutropes. Distillation anomalies similar to those found for a known saddle azeotrope composed of chloroform, acetone and methanol were found. Results obtained for the fractional distillation of two interesting mixtures are presented.

SVENTOSLAVSKIY, V.V.

POLAND/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8  
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7453

Author : Sventoslavskiy and Trombchinskiy  
Inst : Polish Academy of Sciences  
Title : Application of the Method of Intersecting Isobars to the  
Investigation of 3-Component Saddle-Point Azeotropes.  
XXII.

Orig Pub : Byul. Pol'sk. AN, 1955, Section 3, Vol 3, No 11, 605-609

Abstract : The method of intersecting isobars is proposed for the  
precise determination of the composition and the boiling  
point temperature of 3-component positive-negative azeo-  
tropes. The method combines distillation with ebullio-  
metric measurements and is based on four independent ebu-  
llic measurements on the four section of the bp-iso-  
bar. In all these measurements the starting liquid is the  
main fraction obtained from the fractional

Card 1/2

- 87 -

SWIETOSLAWSKI, Wojciech

4

Polyazeotropy and polyazeotropic mixtures. Wojciech Swietoslawski (Univ. Warsaw). *Wiadomości Chem.* 9, 531-54 (1965).—The following topics are reviewed: fundamentals and definitions of azeotropy, polyazeotropy, and polyazeotropic mixts. (I), pos.-neg. ternary azeotropes not contg. water, methods of investigation of I, self-improvement of the multicomponent azeotropic agent, sepn. and purification of pyridine and quinoline bases, isolation and purification of anthracene, carbazole, acenaphthene, 2-methylnaphthalene, and pseudocumene, theoretical studies of eutectics, solid solns., and azeotropes, crit. range of liquids, and thermochem. studies. 28 references.

Adam Sporyński

11/1/65  
181 824

SWIETOCKAWSKI, W.

POLAND/Chemical Technology - Chemical Products and Their  
Application. Industrial Organic Synthesis

I-14

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 13061

Author : Swietockawski W.

Title : The Problem of Proper Utilization of Organic Raw Materials

Orig Pub : Przem. chem., 1955, 11, No 10, 539-540

Abstract : Considered are the problems of composite utilization of  
the products of synthesis of liquid fuels and of the  
processing of coal tar.

Card 1/1

- 269 -



SWIETOSIANSKI, M.

Proper utilization of black coal and coal derivatives.

p. 5 (Koks, Smola, Gaz. Vol. 1, no. 1, Jan./Mar. 1956. Katowice, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,  
February 1958

SHLITONLAUSAT, P.

Polyazotropny i poliazotropne systemy i mieszaniny. p. 21.  
(REVIEW. Vol. 1, no. 1, Oct/Dec. 1956. Warszawa, Poland)

SC: Monthly List of East European Accessions (EWEL) 13. Vol. 1, no. 12, Dec. 1957.  
Uncl.

SWIETOSLAWSKI, V.  
USSR/Physical Chemistry, Thermodynamics, Thermochemistry,  
Equilibriums, Phys-Chem. Anal. Phase-Transition

B-8

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22281

Author : V. Swietoslawski, K. Zemborak, I. Stetski.  
Inst : Not given  
Title : Binary system classification

Orig Pub : Byull. Polskoy A.N. 1956, Otd 3,4, No 2, 93-95.

Abstract : A classification of bicomponent liquid systems with limited mutual solubility is exposed. Equilibriums in vapor-liquid and vapor-two liquids systems at big variations of temperatures and pressures are studied. Cases are reviewed when a transition of a heteroazeotrope into a homoazeotrope is observed at a temperature lower than the critical solubility temperature (disappearance of one of the liquid phases takes place under the critical solubility temperature). The necessity of experimental and theoretical studies is indicated for determining conditions of formation of heteroazeotropes only or of gradual transformation of heteroazeotropes into homoazeotropes. The terms - definition is given earlier (V. Swietoslawski Ebullio-metric measurements, New York, Rheinhold Publ. Corp. 1945).

Card 1/1

-92-

POLAND/Physical Chemistry - Thermodynamics, Thermochemistry,  
Equilibrium. Physicochemical Analysis. B.  
Phase Transitions.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 27855

Author : Sventoslavskiy, V. and Malcsinskiy, V.

Inst : Polish Academy of Sciences.

Title : On the Utilization of Reduced Equations Expressing the  
Properties of Some Series of Positive Binary Azcetro-  
pic Systems.

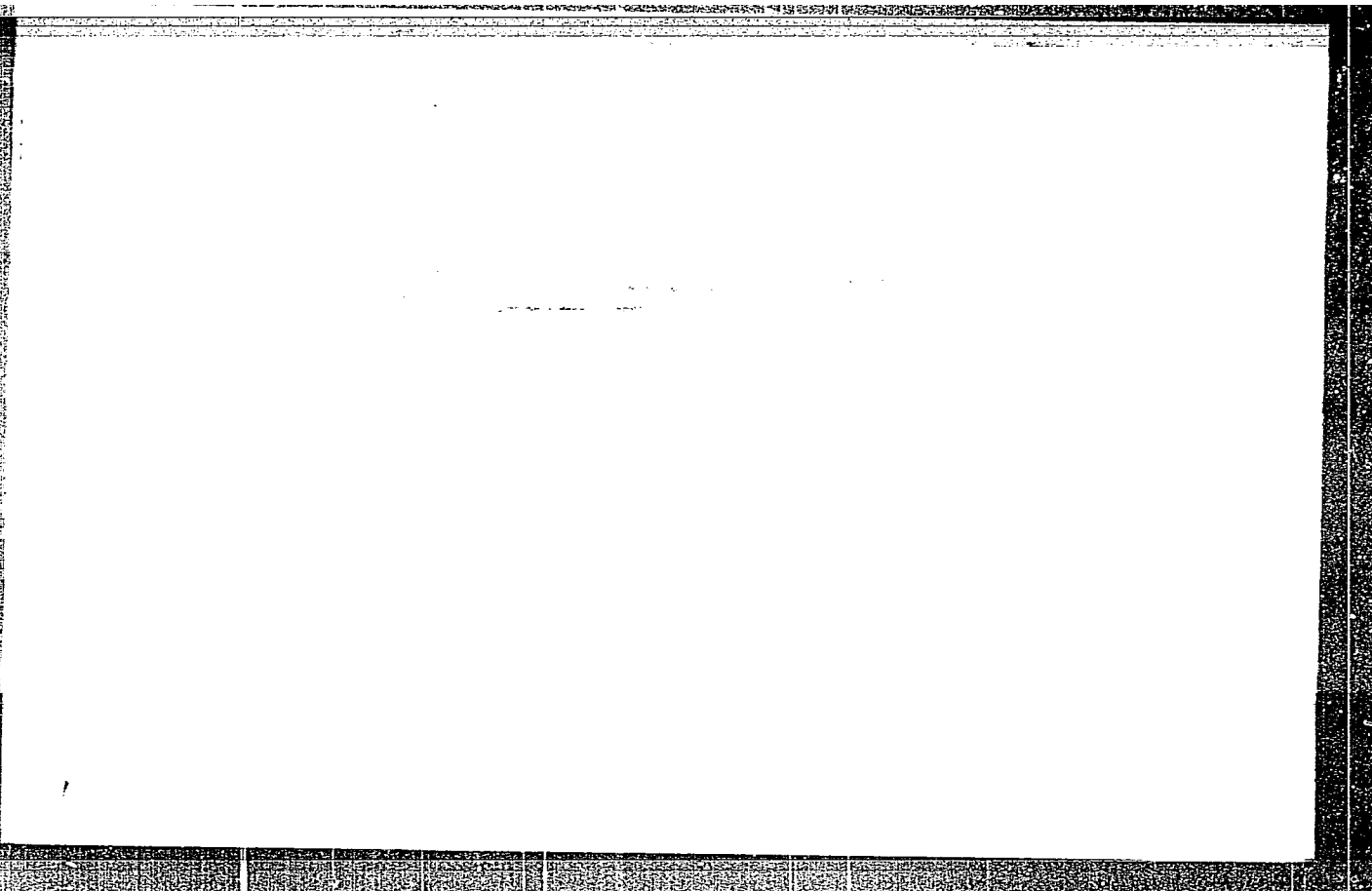
Orig Pub : Byull Pol'skoy Akad Nauk, Otdel 3, 4, No 3, 155-160  
(1956)

Abstract : On the basis of previously published work (Roczniki  
Chem, 10, 97 (1930); 25, 98, 109, 301 (1951); RZhKhim,  
1957, 7454) the authors have introduced equations con-  
taining azeotropic parameters expressing general

Card 1/2

**"APPROVED FOR RELEASE: 07/13/2001**

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**APPROVED FOR RELEASE: 07/13/2001**

**CIA-RDP86-00513R001654220006-5"**

*SVENTOSLAVSKIY, V.V.*

POLAND / Physical Chemistry. Thermodynamics. Thermochemistry B-3  
Equilibria. Physical-Chemical Analysis. Phase  
Transitions.

Abs Jour : Ref Zhur - Khim., No 10, 1958, 31667

Author : V. Sventoslavskiy, V. Malosinskiy

Inst : Academy of Sciences of Poland

Title : Azeotropic Depressions as Functions of Series Composition  
of Ternary Positive Azeotropes.

Orig Pub : Byul. Pol'skoy AN, 1956, otd. 3, 4, No 10, 685-692.

Abstract : Based on the equation derived earlier (RZhKhim, 1957,  
76584), an equation connecting the boiling points of series  
of ternary azeotropes with their composition was derived:

$$T_{AZ}^{(2,30)} - T_{AZ}^{(1_i,2,3)} = Z_{d21} x_{1_i}^2, \text{ where } T_{AZ}^{(2,3)} \text{ and } T_{AZ}^{(1_i,2,3)}$$

Card 1/2

15

POLAND / Physical Chemistry. Thermodynamics. Thermochemistry  
Equilibria. Physical-Chemical Analysis. Phase  
Transitions.

B-8

Abs Jour : Ref Zhur - Zhim., No 10, 1958, 31667

are the boiling points of binary (2,3) and ternary (1, 2,3) azeotropes formed of representatives  $l_i$  of saturated hydrocarbons of a homologous series;  $Z_{d21}$  is the bottom part of the azeotropic border of the main component 2 with reference to the series  $l_i$ ;  $x_1$  is the molar part of  $l_i$  in the azeotrope (1,2,3). The equation was checked with experimental data for systems consisting of benzene, methanol (isobutanol, isopropanol) and a series of aliphatic hydrocarbons.

Card 2/2

SWIETOSLAWSKI, W.

7  
Azeotropic depression as a function of the composition of series of ternary positive azeotropes. W. Świątosławski and W. Molesinski. *Bull. Acad. Polon. Sci. Chim. Phys.* 4, 683-700 (1956) (in English).—The set of successive ternary azeotropes (1, 2, 3) formed by homologs 1<sub>i</sub> with compds. 2 and 3 is called a series of (ternary) azeotropes. A series of ternary pos. azeotropes was examd. on the basis of the previous theory (C.A. 51, 1677b; 2nd preceding abstr.) components indicated by the upper index, Z<sub>n</sub>, the lower part of the azeotropic range (C.A. 47, 9083h; 51, 1676g, 1677g) and x<sub>n</sub> the mole fraction of the component 1<sub>i</sub> in the ternary azeotrope. An essential agreement was found with Orszagh's data (C.A. 50, 4487f) on 3 polyazeotropic systems: aliphatic hydrocarbons (1)-C<sub>2</sub>H<sub>6</sub> (2)-CH<sub>3</sub>OH (3), or iso-PrOH (3'), or iso-BuOH (3''). The changes of compns. of ternary azeotropes belonging to a series is discussed.  
J. Stecki

RM-mr



SWIĘTOSZAWSKI, W.

Fizykochemia smoły węglowej (Physico-chemistry of carbon tar), by  
W. Świętosławski. Reported in New Books, (Nowe Książki), No. 6, March 15,  
1956.

SVENTOSLAVSKIY, V.V. [Świątoslawski, W] (Varshava)

Polyazeotropy and polyazeotropic mixtures. Zhur.prikl.khim.  
29 no.10:1465-1478 0 '56. (MIRA 10:10)  
(Azeotropy)

SWIETOSLAWSKI, W.

W. Swietoslowski - Fizykochemia Smoly Węglowej, Warsaw: Vol 5 of the publication of the Polish Chemical Society "Chemistry for All", State Scientific Publishers, 1956, 287 p. Reviewed in Roczniki Chemii, Vol 30, No 3, 1956.

*Swietoslawski, W.*

POLAND/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,  
Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3769.

Author : W. Swietoslawski, J. Stecki.

Inst : Academy of Sciences of Poland.

Title : Series of Binary Mixtures with Limited Mutual Solubility.

Orig Pub: Bull. Acad. polon. sci., 1957, Cl.3, 5, No 2, 155-159, XIV.

Abstract: Schemes of zeotrope and azeotrope formation in binary systems  
(A, H<sub>2</sub>) of the azeotropic agent A and a representative of a  
homologous series H in case of limited mutual solubility of  
components are given.

Card : 1/1

-16-

*Swietoslowski, S. W.*

POLAND/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,  
Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3774.

Author : I: W. Swietoslowski, K. Zieborak, W. Brzostowski. II: K.  
Zieborak, W. Brzostowski.

Inst : Academy of Sciences of Poland.

Title : Vapor-Liquid Equilibria. I. An Apparatus for Determining the  
Vapor-Liquid Phase Equilibria. II. The n-Decane-Acetic Acid -  
2,6 Lutidine System.

Orig Pub: Bull. Acad. polon. sci., 1957, Cl. 3, 5, No 3, 305-308, XXV.

Abstract: I. an apparatus for simultaneous boiling temperature measurement  
and liquid and vapor composition determination is described. The  
apparatus has been checked with the water-methanol system and  
works faultlessly in all cases when vapor is in equilibrium with  
only one liquid phase.

Card : 1/2

-20-

POLAND/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,  
Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 377<sup>4</sup>.

II. The equilibrium liquid-vapor in the n-decane - acetic acid - 2,6-lutidine system and in binary systems composing it was studied. The composition was determined by chemical analysis and refraction indices of the mixtures. The system is characterized by a limited mutual solubility of the components at 25°. All the mixtures are single phase ones at the boiling temperature. The positions of the crest line and of the point answering the saddle azeotrope are determined.

Card : 2/2

-21-

POLAND/Thermodynamics. Thermochemistry. Equilibria. Physico-chemical Analysis. Phase Transitions.

B

Abs Jour: ~~Fiz~~ Zhur-Khin., No 15, 1958, 49538.

Author : Swietoslowski W.  
Inst : Polish Academy of Sciences.  
Title : Peculiar Polyazeotropic Mixtures.

Orig Pub: Bull. Acad. polon. sci., 1957, Cl. 3, 5, No 12,  
1141-1143, XCIII.

Abstract: Consideration of properties of two polyazeotropic mixtures: liquid obtained by Fischer-Tropsch synthesis, and coal tar obtained at low temperature. The 1st of these mixtures contains 2 series of homologues and their isomers -- paraffins and olefins. Coal tar obtained at low temperature contains 5 series of homologues and their isomers, which

Card : 1/2

SVENTOSLAVSKIY, V.V. [Świętosławski, Wojciech]; BANASHEK, Ye.I., kand.khim.  
nsik' [translator]; ZAKHAR'YEVSKIY, V.A., red.; BELEVA, M.A.,  
tekh.n.red.

[Physical chemistry of coal tar] Fizicheskaya khimiya kamennou-  
gol'noi smoly. Translated from the Polish. Moskva, Izd-vo  
inostr.lit-ry, 1958. 370 p. (MIRA 12:2)  
(Coal tar)



SWIETOSLAWSKI, W.

"Reminiscences on Wladyslaw Natanson"

p. 209 (Kosmos. Seria B; Przyroda Nieożywiona, Journal on natural sciences with the exception of biology issued by the Copernicus Society of Polish Naturalists, Vol. 4, no. 3, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 1, Jan. 59.

Stuket AS LAWSKI, tal.

measured by a comparative method described earlier (*Compt. rend. acad. bolon.* 14. 24, 1(1919)). The vapors were superheated to about 91° and the correction read as 1.0 at 1/7 was introduced. The components of the mixture had a normal boiling point of 100° and the boiling point of the mixture was 100°.

Distr: 4E3d

Mean specific heats of some ternary azeotropes. W.  
Swietoslawski and A. Zielenkiewicz (Inst. Chem. Fiz.  
P.A.N., Warsaw). Bull. acad. polon. sci., Sér. sci., Chim.  
géol. et géograph. 6, 305-0(1958)(in English); cf. following  
 abstract.—Mean specific heats for the temp. ranges be-  
 tween room temp. and the respective b.ps. were detd. for  
 liquid mixts. of const. compn. equal to that of the azeotrope  
 at atm. pressure. Weighed samples were transferred from a  
 Swietoslawski ebullionmeter used as a thermostat to an  
 isothermal calorimeter, water being used as a standard.  
 The temp. ranges and specific heats for indicated compds.  
 or azeotropes were: pyridine (I)-AcOH-heptane (II)  
 azeotrope, 96.3-21.8°, 0.589; I, 96.3-21.7°, 0.444; AcOH,  
 96.3-22.0°, 0.556; II, 96.3-21.8°, 0.590; I-AcOH-nonane  
 (III) azeotrope, 129.0-22.1°, 0.562; I, 129.0-22.1°, 0.452;  
 AcOH, 129.0-22.4°, 0.547; III, 129.0-22.1°, 0.600 cal./g.  
 degree, resp. I. Stecki

POLAND / Physical Chemistry--Thermodynamics.

B-8

Thermochemistry. Equilibrium. Physico-chemical analysis. Phase Transitions.

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 37826

Author : Swietoslawski, W.; and Zielenkiewicz, A.  
Inst : Polish Academy of Sciences - Inst. Chem Physics.  
Title : Mean Specific Heats of Binary Positive Azeotropes.

Orig Pub : Bull Acad Polon Sci, Ser Sci Chim, Geol et Geograph, 6, No. 6, 367-369, XXX (1958) (in English with a Russian summary)

Abstract : The authors have determined the mean specific heats of the following binary positive azeotropes; toluene-isopropyl alcohol, toluene-isobutyl alcohol, p-xylene-isobutyl alcohol, m-xylene-isobutyl alcohol, p-xylene-isoamyl alcohol,

Card 1/3

COUNTRY	: Poland	H-22
CATEGORY	:	
ABS. JOUR.	: RZKhim., No. 16 1959, No.	58412
AUTHOR	: Swietoslowski, W. and Lisicki, Z.	
INST.	: Polish Academy of Sciences	
TITLE	: A Method for the Investigation of Polyazeotropic Mixtures of the Type Found in Coal Tar	
ORIG. PUB.	: Bull Acad Polon Sci Ser Sci Chim, Geol et Geograph, 6, No 7, 453-457, XXXVIII (1958)	
ABSTRACT	: The authors describe a method for the investigation of polyazeotropic mixtures, based on the repeated distillation and analysis of fractions of the starting mixture and of the starting [?] mixture from which one or two groups of homologs have been removed or to which one or more components have been added [sic]. By way of an example, the authors have applied a method to the investigation of coal tar acid, which is a complex polyazeotropic mixture of phenols, pyridine bases, paraffins, and naphthalene.	
	V. Zagrebel'naya	

CARD: 1/1

SWIETOSLAWSKI, W.

Kazimierz Smolenski; personal reminiscences. p. 645

WIADOMOSCI CHEMICZNE. (Polskie Towarzystwo Chemiczne)  
Wroclaw. Vol. 12, no. 11, Nov. 1958  
Poland/

Monthly List of East European Accessions Index (EEAI), LC, Vol. 8, no. 6, June 1959  
Uncl.

SWIETOSLAWSKI, W.

SCIENCE

periodicals: WIALOMOSCI CHEMICZNE Vol. 12, no. 12, Dec. 1958

SWIETOSLAWSKI, W. Organic applied physical chemistry. p. 757.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 5  
May 1959, Unclass.

SVENTOSLAVSKIY, V.V. [Swietoslawski, W.W.], (Varshava).

Comparative physicochemical measurements. Usp. khim. 27 no.10:  
1198-1208 0 '58. (MIRA 11:12)  
(Physical measurements)



AUTHOR: Sventoslavski , V. V., Professor, 30-58-4-5/44  
~~Active Member of~~ the Polish Academy of Sciences

TITLE: Azeotropes and Eutecticts and Their Importance in Applied  
Physical Chemistry (Azeotropy i evtektiki i ikh znacheniye  
v prikladnoy fizicheskoy khimii)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, 28 Nr 4,  
pp. 37 - 41 (USSR)

ABSTRACT: A. F. Kapustinskiy, Corresponding Member of the Academy  
of Sciences of the USSR, in the preface gives a short char-  
acterisation of the scientist Sventoslavskiy as well as a  
review of his works. He calls him leading in the whole world  
in the field of thermal chemistry of organic compounds.

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The specialists for azeotropy had no interest in the raw-  
-material tar which is gained by the coking of hard-coal.  
By this it follows that the typical azeotropes which are  
produced of this technically important organic raw-material  
in the tables of azeotropic mixtures by M. Lek, L. Khorsli,  
respectively, are not included. This was the reason why the  
author with his team in Warsaw since 1949 found it necessa-

Card 1/3

Azeotropes and Eutecticts and Their Importance in Applied  
Physical Chemistry

30-58-4-5/44

ry to investigate up till then unknown azeotropes which are produced in the distillation of hard-coal, the richest organic raw material of the country. By the example of the system benzene-benzine, benzene-benzine-ethanol, and benzine-ethanol-water K. Zemborak (Ref. 4 and 5) investigated all phenomena which served the author for the classification of positive azeotropes. At that moment (1950) the way for elaborating the theory about polyazeotropic mixtures in its basic ideas was free. The ebulliometric methodology of making comparative measurements made the works in the field of the azeotropy much easier (Ref. 6). Nevertheless it was necessary to widen the research plan so that it was not only limited within the field of theoretical and experimental works about azeotropy, polyazeotropy and polyazeotropical mixtures but also included researches which were combined with the thermochemical and cryometric measurements, as well as with the research of the phase-equilibria (especially of polyeutectic mixtures). In connection with cryometric researches the theory about so called ideal eutectics developed the common theory which Malesinskiy evolved. A. Bylitskiy and S. Lisitskiy proposed 4 methods for the separation of the eutectic

Card 2/3

Azeotropes and Eutectics and Their Importance in Applied  
Physical Chemistry

30-53-4-5/44

mixture of isomeric nicotinic acids which were taken over by industry. There was also solved the problem of the research methodology of poly-component-mixtures which often form poly-eutectic systems. In this field large researches by aid of 2 methods were made which are described in detail. M. Vuytsitskaya investigated a spatial model of the three-component-system and V. Vuytsitskiy the absorption and ionic exchange. In May 1957 the Physical-Chemical Institute of the Polish Academy of Sciences called a scientific conference about phase-equilibria in which delegates of the USSR (A. F. Kapustinskiy, G. B. Ravich and V. K. Semenchenko) and of the peoples' democracies took part. There are 12 references, 1 of which is Soviet .

1. Thermochemistry--Applications

Card 3/3

Characteristic properties of three polyazeotropic mixtures. Wojciech Świątosławski (Univ. Warsaw). *Roczniki Chem.* 32, 887-911 (1958) (English summary); cf. *Azeotropy and Polyazeotropy*, Warsaw, 1957; C.A. 50, 9080a. The characteristic differences in the nature of 3 polyazeotropic mixts.: the liquid obtained by Fisher-Tropsch synthesis (I) and the low (II) and high-temp. (III) coal tars are discussed. I contains 2 series of homologs and their isomers: paraffins and olefins. All the normal paraffins are the main distn. components. II contains 5 series of compds. Owing to this fact, a large variety of binary, ternary, quaternary, and probably quinary saddle azeotropes are formed in the course of fractional distn. III offers an example of typical polyazeotropic mixt. having main distn. and crystn. components. Some fractions of III may be called polyazeotropic-poly-eutectic mixts.

A. Kręglewski

Wojciech Świątosiński

Distr: 4E2c(j)/4E3d

Vaporization enthalpy of a homologous series of binary azeotropes. Wojciech Świątosiński and Anna Zielenkiewicz (Univ. Warsaw). *Notulæ Chem.* 32, 913-22 (1958) (English summary).--The vaporization enthalpy of binary pos. azeotropes ( $A_1, H_1$ ) composed of aromatic hydrocarbons as azeotropic agents A (benzene, toluene, p-xylene) with primary aliphatic aces. as series of homologs ( $H_1$ ) and of pyridine with n-paraffinic hydrocarbons were detd. If the vaporization enthalpy of  $A_1$  is higher than those of  $H_1$ , the gram-vaporization enthalpies of azeotropes increase with the normal b.p. of  $H_1$ , whereas if that of  $A_1$  is lower than those of  $H_1$ , a reverse phenomenon takes place. The heat of mixing at the b.p. of the azeotrope increases with rising b.p. of the homolog. The curves of mol. vaporization entropies of the azeotropes plotted vs. their compn. show a max., the position of which depends on the vaporization entropy of  $A_1$ .  
A. Kręglewski

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Distr: 4E3d/4E2c(j)

7 The mean specific heats of binary positive azeotropes.  
 Wojciech Swietoslawski and Anna Zielenkiewicz (Univ.  
 Warsaw). *Roczniki Chem.* 32, 821-8 (1958) (English sum-  
 mary).—A thermostat functioning on the principle of Swie-  
 toslawski's ebulliometer was used to det. mean sp. heats of  
 liquids in the range from room temp. to the b.p. for toluene  
 (I) (0.433 and 0.441 cal./g. degree), *p*-xylene (II) (0.447,  
 0.455), *m*-xylene (III) (0.448), *o*-xylene (IV) (0.465), iso-  
 propyl alc. (V) (0.718), isobutyl alc. (VI) (0.693, 0.704), and  
 isoamyl alc. (VII) (0.699), and of the azeotropes I-V (0.656),  
 I-VI (0.587), II-VI (0.681), III-VI (0.683), II-VII (0.601),  
 and IV-VII (0.630). The sp. heats of azeotropes are higher  
 than the additive values, in agreement with Kreeman and  
 Zhdanov's observation (*J. Gen. Chem. U.S.S.R.* 11, 471  
 (1941)).  
 A. Kreglewski

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7-7

Distr: 4E3d/4E2c(j)

Vaporization enthalpies of binary azeotropes formed by the homologous series of aliphatic alcohols with benzene and toluene? Wojciech Swietoslawski and Zofia Ciecierska-Tworek ~~Chim. Waczm. Roczniki Chem.~~ 32, 029-39 (1958) (English summary).—The integral heats of vaporization of 9 azeotropes were detd. in Tworek's app. (C.A. 52, 2483f) with the following results:  $C_4H_9$ -MeOH 8.073 kcal./mole,  $C_4H_9$ -EtOH 8.201,  $C_4H_9$ -PrOH 7.597,  $C_4H_9$ -iso-PrOH 8.001,  $C_4H_9$ -iso-BuOH 7.183, toluene-MeOH 8.283, toluene-EtOH 8.871, toluene-PrOH 8.952, and toluene-BuOH 8.187. The replacement of benzene by toluene causes some insignificant shifts of the curves of enthalpy plotted vs. h.p. of the azeotrope or the no. of  $CH_2$  groups in the mol. of alc. A distinct shifting is observed for  $C_4H_9$  as the azeotropic agent when iso- are replaced by n-alc. A max. appears for the  $C_4H_9$ -EtOH azeotrope in the  $C_4H_9$ -alc. series, and for the toluene-PrOH azeotrope in the toluene-alc. series. A. Kreglewski

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JK7

COUNTRY	:	Poland	H-22
CATEGORY	:		
ABST. JOUR.	:	RZKhim., No. 21 1959, No.	76043
AUTHOR	:	Swietoslowski, W.	
IND.	:	Not given	
TITLE	:	The Basic Physicochemical Properties of Liquid Organic Raw Materials	
ORIG. PUB.	:	Przemysl Chem, 37, No 4, 239-245 (1958)	
ABSTRACT	:	The author reviews the work done at the Physical Chemistry Laboratory of the University of Warsaw over a period of 10 yrs in the field of the investigation of the physicochemical properties of liquid organic raw materials, particularly of coal tar resins and their fractions. The experimental results indicate that the majority of liquid organic raw materials consist of polyazeotropic mixtures containing 2 and more series of homologs and their isomers, and that the majority	

CARD: 1/2



SWIETOSLAWSKI, WOJCIECH.

Physikalische Chemie des Steinkohlenteers.

Ubers. von Mikolaj Lenartowski. Koln, Poland Mik. Jos. Hoffman-Verlag, 1959.  
315p.

Monthly List of East European Accessions, (EEAI) LC, Vol. 9, No 1, Jan. 1960  
Uncl.

SWIETOSLAWSKI, W.

Terminology and symbols of known and new kinds of homoazeotropes. I.  
Bul Ac Pol chim 7 no.1:1-6 '59. (EEAI 9:7)

1. Institute of Physical Chemistry, Polish Academy of Sciences.  
(Azeotropes)

COUNTRY : Poland  
CATEGORY : B-8  
ABS. JOUR. : AZKhim., No. 22 1959, No. 77721  
AUTHOR :  
TIT. :  
TITLE :  
ORIG. PUB. :  
ABSTRACT : for multicomponent systems are insufficiently  
studied. For Communication I see Abstract 77720.  
V. Kogan

CARD: 5/3

CATEGORY :	
ABS. JOUR. :	RZKhim., No. 22 1959, No. 77722
AUTHOR :	
INST. :	
TITLE :	
ORIG. PUB. :	
ABSTRACT :	additional new types of azeotropes, [(-)A, P(+)H, Az], [(+)J, B(-)C], and [(-)C, P(+)H], have been investigated to a limited extent as yet; however, the possibility of increasing the number of azeotropes of these types is noted (Az stands for an acid and J, for a halogen-substituted hydrocarbon) For Communication II see Abstract 77721. V. Kogan
CARD: 2/2	
COUNTRY :	Poland B-8

SWIETOSLAWSKI, W.; ZIELENKIEWICZ, W.

On a new labyrinth flow calorimeter. Bul Ac Pol chim 7 no.2:105-105  
'59. (EEAI 9:7)

1. Institute of Physical Chemistry, Polish Academy of Sciences.  
Presented by W.Swietoslowski.  
(Calorimeters and calorimetry)

SWIETOSLAWSKI, W.; ZIELENKIEWICZ, W.

Thermostats used with the labyrinth flow calorimeter. Bul Ac Pol  
chim 7 no.2:107-110 '59. (EEAI 9:7)  
(Calorimeters and calorimetry)  
(Thermostat)

SWIETOSLAWSKI, W.; OLSZEWSKI, K.

A new type of ebulliometer for determining the boiling temperature of two liquid phase mixtures. Bul Ac Pol chim 7 no.8:531-533 '59.  
(EEAI 10:4)

1. Institute of Physical Chemistry, Polish Academy of Sciences.

Presented by W.Swietoslawski.

(Ebullioscopes) (Boiling points) (Liquids) (Mixtures)

P/002/60/000/004/003/003  
A221/A126

Experience and work of the...

above-mentioned institutions include: 1) thermochemistry, 2) microcalorimetry, 3) azeo- and poly-azeotropy, 4) cryometry, 5) critical state of substances and their azeotropes, 6) liquid-vapor equilibria, 7) separation and purification of substances, 8) thermodynamics of azeotropes and eutectics. Apart from this, physical chemistry of coal tar was carefully studied, aiming for better output of its major components, naphthalene, pyridine and quinoline bases, methylnaphthalene, carbazole, anthracene etc. The progress of this work was such that the Polish edition of the "Physical Chemistry of Coal Tar" was published in 1956, the Russian translation of it in 1958, and the German one in 1959. Azeotropy: The main task of specialists since 1950 was the investigation of 3- and 4-component azeotropes. Apart from the already mentioned Docent Zięborak, important results in this field were achieved by Doctor A. Gaska-Krayewska, Master D. Wyrzykowska-Stankiewicz, Master M. Szczepanikowa, W. Trąbczyński and W. and B. Malesiński. For azeotrope investigations the ebulliometers proved to be irreplaceable. Important cryoscopic investigations were carried out by Master T. Plebański on behalf of the International Union of Pure and Applied Chemistry. This institution asked for investigations to be carried out concerning the accuracy of estimation of substance purity by cryoscopic method. Eight samples for this work were obtained from the National Bureau of Standards in Washington. Thermochemistry and microcalorimetry: Doctor

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P/002/60/000/004/003/003  
A221/A126

Experience and work of the...

W. Wózcicki carried out basic investigations on ionites and sorbents and Master Mrs. M. K. Wóycicka investigated the mixing heat of three-component systems. Master A. Zielenkiewicz investigated condensation heat of individual liquids and two- or three-component azeotropes and improved the apparatus for making calorimetric measurements. Master W. Zielenkiewicz designed a complicated thermostat for a microcalorimeter. The instrument is designed for investigation of small thermal processes, lasting sometimes for 20 days. The thermostat is so effective, that within 14 days the temperature in it did not vary more than  $\pm 0.001^\circ\text{C}$ . Determination of liquid-vapor equilibria was initiated by Docent K. Zięborak and determinations of the coefficient of positive-azeotrope boiling temperature changes, are carried out by Master J. Stadnicki. Thermodynamics of azeotropic and eutectic systems was the subject of Doctor W. Malesinski's theoretical work, confirmed by experimental observations, carried out by Docent A. Bylicki. Doctor J. Stecki published series of theoretical articles dealing with two- and three-component hetero azeotropes. A Bylicki and Z. Lisicki worked out a method of separating the eutectic mixture of two izomeric nicotinic acids. Publications: Since 1951, the Warsaw University, Department of Physical Chemistry has published over 300 scientific papers in Polish and foreign periodicals. Relations between Polish and foreign

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Experience and work of the...

P/002/60/000/004/003/003  
A221/A126

scientists are very vivid. Before WW II, contacts with Western scientists and institutions were maintained, extended after the war to USSR and other socialist countries. There is a frequent mutual exchange of scientists. In 1957, three delegates of the USSR were present at the conference dealing with phase equilibria; they were: A. F. Kapushinskyi, Member of the AS USSR, G. B. Ravich and V. K. Syemyenchenko. On another occasion, Professor of the Leningrad University A. W. Storonkin, visited Polish Universities for a whole month. Cooperation with the industry was initiated in connection with investigations of azeotropes appearing in coal tar. Very helpful in this line was the Director of the Coke Plant "Hajduki", Master of Engineering M. Wnęk. In 1958 - 1960 many conferences took place in which participated: Master of Engineering S. Niewiadomski, leader of the Samodzielny Wydział Węglowodórnych Zjednoczenia Przemysłu Syntezy Chemicznej (Autonomous Department of Coal Derivatives of the Association of Chemical Synthesis Industry) in Gliwice, Master of Engineering J. Głowacki, Director of "Blachownia" and Master of Engineering A. Śladek from the "Hajduki" plant. With backing of the Minister of Chemical Industry, Master of Engineering Antoni Radliński, Viceminister Master of Engineering A. Kowalski and Master of Engineering K. Lajdler, Director of the Technical Department in this Ministry, ten pilot installations for investigation of coal derivatives will be built. The export value of these products is

Card 5/6

SWIETOSLAWSKI, Wojciech

The responsibility of scientific directors. Review Pol Academy 5  
no.3/4:91-106 J1-D '60.

(Science)

SWIETOSLAWSKI, Wojciech

Duties of leaders of scientific teams. Nauka polska 8 no.3:127-  
145 JI-S '60.

1. Członek rzeczywisty Polskiej Akademii Nauk, Warszawa.

P/016/60/014/005/001/001  
B103/B207

AUTHOR: Świątosławski, Wojciech

TITLE: Professor, Doctor Marcelli Struszyński. In memory of his decease

PERIODICAL: Wiadomości chemiczne, v. 14, no. 5:(155), 1960, 267-272

TEXT: The author describes the scientific activity of Marcelli Struszyński (M. S.), Professor, Doctor, who died on September 1, 1959. M. S. was the most outstanding analytical chemist of the pre- and post-war period in Poland. He is the author of a number of works in the field of the organic and inorganic (quantitative and qualitative) analysis, as well as of technical analysis. His publications did not only serve as text-books for students, but also as abundant hand-books for the everyday use of analytical experts. Most of the analyses described, personally checked by M. S. This extensive treatment is without equivalent in Polish scientific publications. The fact that M. S. refused the payment for his first text-book in favor of the academic youth gives a characteristic picture of his attitude toward his students. The author restricts himself more or less to years 1911-1925, since J. Minczewski, Professor has only recently described M. Struszyński's

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Professor, Doctor Marcelli ...

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B103/B207

activity in an article published by the periodical "Chemia Analityczna". The author collaborated with M. S. in 1911 when they studied the direct preparation of diazonium salts from aromatic amines by the action of nitrosyl chloride in anhydrous medium. M. Struszyński's analyses determined the course of reaction which, at that time, had not been clearly defined. In Moscow, M. S. covered the following positions: Head of the Division for Analyses and Expert Opinion on Legal-, Customs, and Commercial Matters in the Laboratory of Blyumental'; expert at the local customs office; between 1903 and 1908 customs inspector at the Moscow Stock Committee, above all for the expert opinion on textiles and textile raw materials. At the end of 1918, M. S. started his activity as analytical chemist at the Instytut Przemysłu Fermentacyjnego (Institute of the Fermentation Industry) in Warsaw and in 1920-1928 he held the position of an adjunct at the Katedra Przemysłu Organicznego i Cukrownictwa Politechniki Warszawskiej (Department of the Organic Industry and Sugar Industry of the Warsaw Polytechnic Institute) under Kazimierz Smoleński, Professor. Here, M. S. directed independently the Pracownia Analizy Technicznej (Laboratory of Technical Analysis) as well as practical courses. Little later, the Rada Wydziału Chemicznego (Council of the Chemical Division) entrusted him with the lectures on ana-

Card 2/4

Professor, Doctor Marcelli ...

P/016/60/014/005/001/001  
B103/B207

lytical chemistry. In 1928, M. S. was appointed Head of the Wydział Chemiczny (Chemical Division) and head of the Centralne Laboratorium Monopolu Spirytusowego (Central Laboratory of the Monopoly on Spirit) as well as the Laboratorium Monopolu Tytoniowego (Laboratory of the Monopoly on Tobacco) and in 1931-1933, after these institutions had had been dissolved, he continued to work for the two monopolies. At the same time M. S. advised the Departament Ceł (Customs Section) and the Rada Towaroznawcza (Council for Commercial Goods) at the Ministerstwo Skarbu (Ministry of Finance) in Warsaw. Between 1933 and 1938, M. S. headed the Dział Analityczny Instytutu Przeciwigazowego Ministerstwa Obrony Narodowej (Analytical Section of the Gas Defense Institute of the Ministry of National Defense). Here, the author and M. S. were both members of the Komitet naukowy (Scientific Council). M. S. had to fulfill difficult and dangerous tasks, on which no literature exists, since they were secret; all data were destroyed in 1939. After the German invasion, M. S. taught in Polish schools of chemistry since all universities were closed. After World War II, M. S. took over in 1947 the direction of the Zakład Analityczny (Department of Analytical Chemistry) at the Główny Instytut Chemii Przemysłowej (Institute of Industrial Chemistry), later at the Instytut Chemii Ogólnej (Institute of General

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Professor, Doctor Marcelli ...

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Chemistry), Ministerstwa Przemysłu Chemicznego (Ministry of the Chemical Industry) where he remained until his death. There is 1 figure. ✓

SUBMITTED: February 6, 1960

Card 4/4



Professor Doctor Tadeusz...

P/016/60/014/008/001/001  
B103/B203

Hilary Lachs as a physicochemist. Tadeusz Miłobędzki taught analytical chemistry, and conducted exercises in qualitative and quantitative analysis. He published the book: "School of Qualitative Analysis". The atmosphere prevailing there can only be understood by one who later, in occupied Warsaw (1940-1944), attended the illegal Polish schools. The above-mentioned Society was reorganized to the Wpna Wszechnica Polska (Free Polish University) in Warsaw in 1920. W. Świątosławski emphasizes that Tadeusz Miłobędzki devoted his life not only to science but also to social work fighting for the existence of Polish culture against czarism. He sacrificed the possibility of his own quiet research work to these aims. The author refers to a letter by Tadeusz Miłobędzki that had been written in 1949 but was handed to the author only after his death (1959) according to his request. Together with Ludwik Szperl and Kazimierz Skawiński, then assistants of the University and of the Politechnicum (Polytechnic Institute) in Warsaw, Tadeusz Miłobędzki devoted his scarce leisure time to tuition at Polish schools and at the Uniwersytet Ludowy (People's University), and issued publications in special periodicals, the encyclopedia, and in popular periodicals. The three men co-operated in the Sekcja Chemiczna (Chemical Section), first at the Department

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Professor Doctor Tadeusz...

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B103/B203

"Popierania Handlu i Przemysłu" (Promotion of Commerce and Industry), later at the "Stowarzyszenie Techników" (Society of Technicians). They delivered reports at the "Muzeum Przemysłu i Rolnictwa" (Museum of Industry and Agriculture) and in the country (Pszczelin Farmers' School). Older chemists (Znatowicz, Boguski, Leppert, and Strassburger) were too short of time for such activity. The leaders of the school strike against Russianization of schools in Poland decided that teachers should not leave their posts. Tadeusz Miłobędzki was one of the signatories of the declaration which had been demanded by a Polish university (other signatories were Mikołaj Tołwiński and K. Szawiński). Before World War II, Tadeusz Miłobędzki started the publication of a series of monographs and books, "Chemia współczesna" (Modern Chemistry). Andrzej Górski stresses Tadeusz Miłobędzki's ability of expressing his thoughts, opinions, and feelings in a thoroughgoing and suggestive form. Due to his extensive social obligations, he found it difficult to do continuous and quiet research work. In spite of it, he never interrupted his experiments. Only after World War I, Tadeusz Miłobędzki was appointed head of the Department of Chemistry of the Szkoła Główna Gospodarstwa Wiejskiego (Main School of Agriculture) in Warsaw, and stayed there for four years,

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Professor Doctor Tadeusz...

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at the same time as a rector. In 1922, he took charge of the Department of Inorganic Chemistry at Poznań University. In 1929, he returned to Warsaw to conduct a similar department at the Polytechnic Institute. His institute burned down in World War II. In occupied Warsaw, Tadeusz Miłobędzki, together with part of his students, continued lessons illegally, and prepared the resumption of work after the war. Experimental research work had to be interrupted in the meantime. Tadeusz Miłobędzki was at Cracow at the end of the war, returned to Warsaw in 1946, gathered his surviving co-workers, and devoted the last years of his life to the reconstruction of his department. There, he resumed his research work. Thanks to his gifts as a scientist and teacher, Tadeusz Miłobędzki created a "school" not only of his closest co-workers but also among his numerous students who learned from his textbooks. His main interest dealt with classification and analogy in chemistry. Tadeusz Miłobędzki's opinions formed the basis of modern Polish chemical classification and nomenclature of chemical compounds (established with the assistance of Professor Edward Józefowicz). He published many papers on phosphorus compounds. A survey of publications of Tadeusz Miłobędzki and his students is given. There are 1 figure and 91 references: 86 Soviet-bloc

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Professor Doctor Tadeusz...

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B103/B203

and 2 non-Soviet-bloc.

SUBMITTED: February 6, 1960

Card 5/5

DORABIALS, Alicja; SWIETOSLAWSKI, Wojciech; GORSKI, Andrzej

Professor Dr. Tadeusz Milobedzki, 1873-1959; obituary.  
Wlad chem 14 no. 8: 500 Ag '60.

SWIETOSLAWSKI, W. dr.

Selection and education of the young scientific caders. Przegl  
techn 81 no.16:15-16 Ap '60.

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001654220006-5

1961 —

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001654220006-5"

SWIETOSLAWSKI, Wojciech, professor

Short review of the activity of the Basic Raw Material Research  
Centre of the Polish Academy of Sciences Institute of Physical  
Chemistry. Review Pol Academy 6 no.1:61-64 Ja-Mr '61.

1. Member of the Polish Academy of Sciences, Institute of Physical  
Chemistry, Warsaw (Director::Professor Michal Smialowski) The  
address of the Institute:Warsaw, Nowy Smiat 72, Palac Staszica.

(Polish Academy of Sciences)  
(Poland--Chemistry, Physical and theoretical)  
(Poland--Research) (Poland--Raw materials)



SWIETOSLAWSKI, W.; BYLICKI, A.; JANKUN, J.

Mutual solubilities of pyridine bases in aqueous solutions of electrolytes. I. Mutual solubilities in the systems: pyridine-sodium hydroxide water and 2,6-lutidine-sodium hydroxide-water. Bul chim PAN 9 no.1:7-10 '61. (EEAI 10:9/10)

1. Institute of General Chemistry, Warsaw. Presented by W. Swietoslawski.

(Pyridine)	(Solutions)	(Electrolytes)	(Systems(Chemistry))
(Solubility)	(Sodium)	(Hydroxides)	(Lutidine)

SWIETOSLAWSKI, Wojciech

On the skill of examining. Nauka polska 10 no.3:95-100  
My-Je '62.

1. Członek rzeczywisty Polskiej Akademii Nauk, Warszawa.

SWIETOSIAWSKI, Wojciech

Some remarks on examination methods. Review Pol Academy 7 no.3:  
108 J1-S '62.

1. Member of the Polish Academy of Sciences, Warsaw.

S/076/62/036/009/010/011  
B101/B102

AUTHOR: Swietoslawski, W. W. (Warsaw)

TITLE: Exact measurements of the freezing point of chemically pure benzene

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 9, 1962, 2087 - 2089

TEXT: The determination of the freezing point of benzene preparations at the Bureau of Standards, Washington, with a degree of purity of 99.999% is reported. The results have been published by the International Union of Pure and Applied Chemistry, Commission on Physico-Chemical Data and Standards, Cooperative Determination of Purity by Thermal Methods, Report of the Organic Committee, July 14, 1961. Using the author's dilatometric cryometer, the maximum error from extrapolation of the crystallization point and melting point was  $0.0003^{\circ}\text{C}$  for 100% benzene. There are 4 figures. The English-language reference is: W. Swietoslawski, Azeotropy and Poly-azeotropy. ✓

ASSOCIATION: Polish Academy of Sciences  
Card 1/2

Exact measurements of the ...

S/76/62/036/009/010/011  
B101/B102

SUBMITTED: February 15, 1962

Card 2/2

BRZHOSTOVSKIY, V. [Brzostowski, W.]; SVENTOSLAVSKIY, V. [Swietoslowski, W.]  
(Warsaw)

Method of eliminating the effect of harmful space in ebulliometric  
measurements. Zhur. fiz. khim. 36 no.9:2090-2091 S '62.  
(MIRA 17:6)



SWIEYKOWSKA, Zofia

Measurement sensitivity of the balanced Wheatstone bridge under critical damping conditions of the galvanometer.  
Rozpr elektrotech 8 no.1:3-53 '62.

1. Katedra Miernictwa Elektrycznego, Politechnika, Warszawa.



SWIEZAWSKA, Ewa

Forgotten 100th anniversary of the discovery of *Lamblia intestinalis*,  
Blanchard by V.D.Lambl and his contributions to medical parasitology.  
Wiadomosci parazyt. 8 no.4:413-418 '62.

1. I Klinika Chorob Wewnetrznych AM, Lodz i Zaklad Historii Medycyny  
AM, Lodz.

(BIOGRAPHIES)

(GIARDIA)

(PARASITIC DISEASES hist)

LISIECKA-ADAMSKA, Halina; SWIEZAWSKA, Ewa

Achard-Thiers syndrome ("diabetes in bearded women"). Endokry. pol.  
13 no.3:413-423 '62.

1. I Klinika Chorob Wewnętrznych AM w Łodzi Kierownik: prof. dr  
J.W. Grott Katedra i Zakład Endokrynologii AM w Łodzi Kierownik:  
prof. dr T. Pawlikowski.  
(DIABETES MELLITUS case reports) (ADRENAL CORTEX dis)  
(HYPERTRICHOSIS case reports)

SWIEZAWSKA, Ewa.....

40th anniversary of the discovery of insulin by Banting and Best.  
Polski tygod. lek. 17 no.22:885-887 28 My '62.

1. Z I Kliniki Chorob Wewnetrznych AM w Lodzi; kierownik: prof. dr  
n. med. J.W. Grott. (INSULIN hist)

KUZMICKI, Ryszard; SWIEZAWKA, Ewa

Observations on the efficacy of Yomesan in the treatment of infestations with the beef tapeworm (*Taenia saginata*). Wiad. parazyt. 9 no.1:41-46 '63.

1. I Klinika Chorob Wewnętrznych AM, Łódź.  
(TAPEWORM INFECTION) (TAENIA) (SALICYLAMIDES)  
(ATHELMINTICS) (THERAPEUTICS)